



FORUM

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HURRICANE DAVID: PLANNING PAYS OFF

Hurricane David, to the relief of residents and public officials of Palm Beach County, was a comparatively mild hurricane that resulted in little permanent, long-term physical damage. When contrasted to its strength and destructiveness in the Caribbean, Hurricane David was a shadow of its former self when it approached Palm Beach County: the maximum wind speed recorded was 92 miles per hour in Jupiter; rainfall associated with the storm was less than four inches; and storm tides were only one to two feet above normal. The county also was fortunate as preliminary assessment indicates beach erosion was minimal, although measurable erosion did occur at certain beaches near the Jupiter, Boynton, and Boca Raton Inlets. The track of Hurricane David generally paralleled the coastline of the county; however, the eye of the hurricane did cross Singer Island and other portions of the north county area.

Damages to the county were not severe, although the agricultural industry suffered extensive losses due to high winds. Also, a number of boats were sunk or severely damaged, and piers and marinas incurred physical damage due to high winds and water. A preliminary estimate prepared by the Palm Beach County Civil Defense Office indicates that hurricane-related damages in the county may approach thirty million dollars. TABLE I provides a breakdown of estimated damages by sector:

TABLE I
Palm Beach County Hurricane Damage

SECTOR	ESTIMATED DAMAGE	
	(Subtotal)	(Total)
Public Property	\$ —	\$ 1,580,000
Private Property		27,200,000
a) Personal		
(Including Housing)	300,000	
b) Marine	2,100,000	
c) Commercial	500,000	
d) Fl. Power & Light	2,600,000	
e) Southern Bell	2,500,000	
f) Agricultural	19,200,000	
Governmental		
Expenditures	—	494,000
TOTAL ESTIMATED DAMAGE		\$ 29,274,000

SOURCE: Palm Beach County Office of Civil Defense

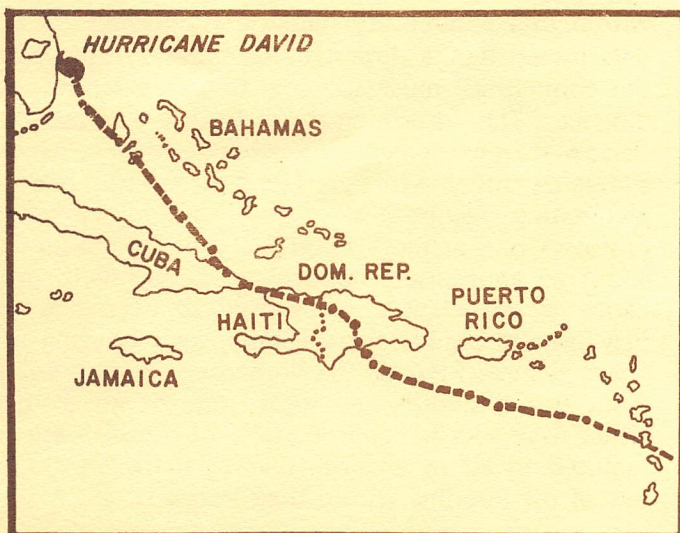
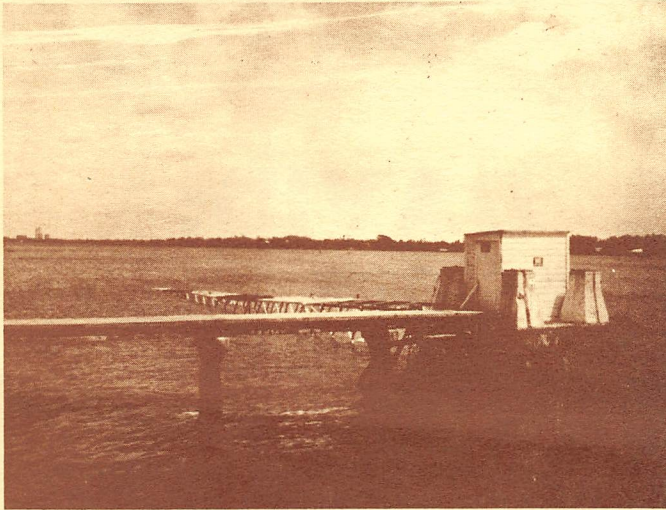


Figure 1: The path of Hurricane David

The Palm Beach County Civil Defense Office is the designated county agency delegated the responsibility of responding to natural disasters and emergencies such as Hurricane David. In cooperation with other county and local agencies, the American Red Cross, the State of Florida and federal emergency management agencies, Civil Defense directs preparations for hurricanes, coordinates evacuation procedures if they become necessary, designates emergency shelters for

those individuals required to leave their dwellings, and provides damage assessments and other post-storm assistance that is necessary. As a result of Governor Graham's evacuation order, Civil Defense and local agencies assisted approximately 40,000 people in evacuating low-lying or exposed areas. Although a majority of evacuees found housing with relatives, friends, or at commercial establishments, an estimated 7,000 people made use of public shelters.



WJNO Radio Station tower resting in Lake Worth following Hurricane David.

In times of disaster, the Area Planning Board (APB) plays a significant role in overall county emergency response operations. The Executive Director of the Area Planning Board is designated as the Deputy for the Intelligence Service attached to Civil Defense, and APB personnel serve as the Intelligence Service staff. The principal mission of the Intelligence Service is to keep appropriate officials and agencies abreast of the effects of a disaster within the county. It is anticipated that this task will assist in the speedy return of the county to normal or near-normal conditions following a disaster. The Intelligence Service is also directed to assist those officials responsible for damage assessment within the county.

Another role played by the Area Planning Board, during times of disaster as well as during the remainder of the year, is providing information to the public regarding the flood zone classification of specific parcels of property. This activity is in support of the federally-subsidized flood insurance program administered by the Office of Federal Insurance and Hazard Mitigation.

The U.S. Congress established the subsidized flood insurance program for several general purposes:

- a) reducing the annual amounts of federal expenditures for disaster relief;

- b) reducing the potential for future disaster-related destruction of property and loss of life by limiting construction in flood prone areas and requiring the use of building techniques which limit damages associated with rising waters; and
- c) making flood insurance available at an affordable cost.

In order to determine those areas where a potential for flooding exists, the U.S. Department of Housing and Urban Development researched historic flood records and surveyed Palm Beach County. As a result of the research and survey, four (4) flood zone classifications for Palm Beach County were established. The potential for flooding in any specific area is determined by the extent of rising waters predicted for a 100-year flood (i.e., a flood of such magnitude that is predicted to occur only once every 100 years). Flood zones established for Palm Beach County are as follows:

- a) Zone V: areas along the coast inundated by a 100-year flood that have additional hazards due to ocean wave action.
- b) Zone A: low lying areas inundated by a 100-year flood.
- c) Zone B: areas between the limits of a 100-year and a 500-year flood or areas protected by flood control devices.
- d) Zone C: areas generally not subject to flooding.

The potential for flooding of any specific area of the county, as indicated by its flood zone classification, is only a prediction based upon best available information. Localized characteristics, stormwater drainage systems, and the particular nature of any given storm can alter the tendency of an area to flood. In order for a community to be eligible for subsidized flood insurance coverage, the potential for flooding within that community must be established. If it is determined that a potential for flooding does exist, the community must adopt a flood prevention ordinance. The purpose of the ordinance is to establish flood plain management measures that meet or exceed standards contained in the federal legislation and implementing regulations. Any community which possesses one or more flood prone areas and fails to adopt an appropriate flood plain management ordinance is not eligible for subsidized insurance and may not be eligible for certain federal housing programs such as FHA or VA home loan guarantees. In Palm Beach County, all local units of government either have adopted appropriate ordinances or are not required to adopt an ordinance as there is little potential for flooding within their borders.

Subsidized flood insurance is available for all structures and for the contents of all structures although a sep-

arate policy for each is required. Coverage is available on a "layer" basis, as there is a first and second layer of coverage. TABLE II indicates first and second layer coverages available through the federal flood insurance program:

TABLE II
Federal Flood Insurance Coverage

Structure Type	Structural Coverage	
	First Layer	Second Layer
Single Family	\$ 35,000	\$ 150,000
Other Residential	100,000	150,000
Other Structures	100,000	100,000

	Contents Coverage	
	First Layer	Second Layer
Single Family	\$ 10,000	\$ 50,000
Other Residential	10,000	50,000
Other Structures	100,000	100,000

SOURCE: Office of Federal Insurance and Hazard Mitigation

Rates for flood insurance vary, and are determined by the flood zone in which a structure is located and its base elevation. TABLE III indicates subsidized flood insurance rates for single family dwellings constructed prior to the flood zone classification of the county:

TABLE III
Single Family Flood Insurance Rates*

Flood Zone Classification	First Layer Coverage**	Second Layer Coverage**
Zone V	25¢	53¢
Zone A	25¢	Varies according to base elevation of structure
Zone B	03¢	03¢
Zone C	01¢	01¢

*Rates quoted are for a one-story single family residence without a basement.

** Rates quoted are per \$100.00 of value of insurance purchased.

SOURCE: Office of Federal Insurance and Hazard Mitigation

For structures constructed following the classification of county flood zones, rates will vary and are directly dependent upon the height of the building above the predicted base flood elevation. Subsidized flood insurance can be purchased from any property and casualty insurance agent.

Although subsidized federal flood insurance and mandatory flood plain management guidelines are useful programs, they will probably not reduce damages in the county that are associated with hurricane and rain-induced flooding. According to a report recently prepared for the National Science Foundation, damage from hurricane wind and storm surge could increase approximately 160% from 1970 to the year 2000. The report predicts damage in 2000 to be approximately five billion dollars, and Florida is expected to incur the most damage of any state in the union. Reasons for rising projections for hurricane damage include increasing coastal development, coastal population growth, and rapidly escalating building costs. Circumstances that could decrease projected hurricane losses include requiring new structures to be 50 percent more wind resistant, construction of adequate sea walls, and requiring all new buildings to be constructed four feet above the predicted storm surge.

It is sobering to contemplate the damages and flooding that would occur in Palm Beach County if a storm of the magnitude of Hurricane David when it hit the Dominican Republic were to strike the county.

In contrast to the relatively mild damage incurred in southeast Florida from Hurricane David, the Gulf Coast states of Alabama, Florida, Louisiana and Mississippi were not nearly so fortunate. Hurricane Frederic came ashore with winds of 130 miles per hour; rainfall associated with the storm ranged from 5 to 8 inches; and storm tides were 10 to 15 feet above normal. In Florida, the hurricane forced the evacuation of approximately 250,000 people from low-lying or exposed locations in Escambia and Santa Rosa Counties.

Preliminary damage estimates prepared by the Bureau of Disaster Preparedness, Department of Community Affairs, indicates that losses in Florida could approach \$125 million. Although the damages were centered in Escambia and Santa Rosa Counties, there were losses in Okaloosa, Walton, and Bay Counties. Beach erosion was severe in Escambia County, in fact it is estimated that during the height of the storm Perdido Key was under 8 feet of water.



BOARD NOTES

Mr. Howard Johnson has been appointed to the Area Planning Board by the Palm Beach County School Board to replace Mr. Thomas W. Sansbury. Mr. Johnson serves as Senior Planning Specialist, School Plant Planning, for the School Board and has been a county resident for over 30 years.

AREA PLANNING BOARD OF PALM BEACH COUNTY

Charles W. Potter CHAIRMAN	Appointed by:	Palm Beach County Legislative Delegation
Thomas Altman VICE-CHAIRMAN	Appointed by:	Palm Beach County Legislative Delegation
Charlotte G. Durante	Appointed by:	Palm Beach County Legislative Delegation
Fred O. Easley	Appointed by:	Palm Beach County Legislative Delegation
Richard Ellington	Appointed by:	Board of County Commissioners Palm Beach County
Norman Gregory	Appointed by:	Board of County Commissioners Palm Beach County
Howard Johnson	Appointed by:	School Board of Palm Beach County
Dennis P. Koehler	Appointed by:	Board of County Commissioners Palm Beach County
Shirley K. Vallan	Appointed by:	Palm Beach County Legislative Delegation
Frank W. Brutt	Executive Director	

Palm Bch. Co. Library System
Kathleen Perinoff, Act. Director
3650 Summit Boulevard
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